



# Material Characterization Study

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# Motivation



## As Demonstrated by Tech Days

Government has invested in mirror substrate materials such as SiC.  
Ability to make material and to make mirrors from material is proven.  
Plethora of SiC 'flavors' each with its own advantages/disadvantages

## Quantitative Data required to Guide Future Investment & Technology Insertion

Characterize each Vendor's Process  
Characterize Uniformity of each Vendor's Process  
Detect Changes in a Vendor's Process  
Flight Qualify Mirrors

## Goal:

Allow a Fair Apples-to-Apples Comparison between different Vendors  
Provide Relevant Data that is Accessible to Customer Community.

**What do we need to Characterize & How do we Measure it.**



# Materials Data Base Initiative



Collaborate Effort – NASA, AFRL, MDA, NRO, Industry, etc.

June 8-9 meeting at MSFC

SPIE Denver Presentation by Iwona Palusinski of Aerospace

Customer Community in Concert with Vendor Community

Define what properties/parameters to characterize.

*Different Applications will have different Requirements.*

Define a standard method to characterize.

*Need a method that yields meaningful data for all types of material.*

Develop Prioritization of which to characterize.

*Different Customers will take lead for different measurements.*

*Need to maximize return on investment*

Data must be independent of Vendors and Traceable to known Standard.



## NASA Effort



NASA's Code T Innovative Technology Transfer Partnerships (ITTP) Program wishes to pursue a collaboration with the Vendor Community:

Vendors Provide Test Samples per NASA Specifications.

NASA will have Samples Characterized (within Budgetary Limitation)

Pilot Program is jointly funded by Code-T, Code-S, JPL, GSFC and MSFC.

Initial Funding is approximately \$400K (including NASA FTE and Travel).

Activity lead by Mr. Cydale Smith of MSFC

### Advisory Board:

HQ:	Jim Breckenridge, TBD
JPL:	Eri Cohen, Marie Levine, Dan Coulter, TBD
GSFC:	David Leisawitz, Dominic Benford, TBD
MSFC:	Phil Stahl, TBD
AFRL:	Larry Matson, TBD
RTI:	Tom Culver
Other:	Dick Dyer, Iwona Palusinski, Ken Benner, TBD



## How to Get Involved



During Breaks,

Talk with Cydale Smith and/or Tom Culver.

Next Step:

Program Plan by 15 Sept